

# Dan Stowell: Publications

An asterisk indicates my lead-authored papers. (Lead author is first-listed for each entry.)

The most significant papers are highlighted in bold and italics.

A note on highly rated venues: The Journal of Machine Learning Research is the premier journal in the field of machine learning (lead-authored paper 2013). The Journal of New Music Research is a highly-rated journal for applications of machine listening to musical sound (lead-authored paper 2010). IEEE Signal Processing Letters is a high-impact letters journal in pure signal processing (lead-authored paper 2009). Regarding conferences, the International Conference of Acoustics, Speech and Signal Processing (ICASSP) is the premier conference in signal processing especially for audio (lead-authored paper 2013). The International Conference on Music Information Retrieval (ISMIR) is likewise the premier conference in applying informatics to music audio, perhaps the highest-regarded publication venue in this field (lead-authored paper 2011).

## Journal papers (refereed)

- \* ***D. Stowell and M. D. Plumbley (2013). Segregating event streams and noise with a Markov renewal process model. Journal of Machine Learning Research, 14, 1891-1916. <http://arxiv.org/abs/1211.2972>***
- \* D. Stowell and S. Dixon (2013), Integration of informal music technologies in secondary school music lessons. *British Journal of Music Education*, 21 pages. DOI:[10.1017/S026505171300020X](https://doi.org/10.1017/S026505171300020X)
- \* ***D. Stowell and M. D. Plumbley (2011). Learning timbre analogies from unlabelled data by multivariate tree regression. Journal of New Music Research, 40 (4), 325-336. DOI:10.1080/09298215.2011.596938***
- \* D. Stowell and M. D. Plumbley (2010), ***Delayed decision-making in real-time beatbox percussion classification. Journal of New Music Research 39 (3), 203-213, September. DOI:10.1080/09298215.2010.512979***
- \* ***D. Stowell and M. D. Plumbley (2009). Fast multidimensional entropy estimation by k-d partitioning, IEEE Signal Processing Letters 16 (6), 537-540, June. DOI:10.1109/LSP.2009.2017346***
- \* D. Stowell, A. Robertson, M. D. Plumbley, and N. Bryan-Kinns (2009), ***Evaluation of live human-computer music-making: quantitative and qualitative approaches, International Journal of Human-Computer Studies 67 (11), 960-975, November. DOI:10.1016/j.ijhcs.2009.05.007***

## Conference papers (refereed)

- D. Giannoulis, D. Stowell, E. Benetos, M. Rossignol, M. Lagrange and M. D. Plumbley (2013), A Database and Challenge for Acoustic Scene Classification and Event Detection. In: Proceedings of the European Signal Processing Conference (EUSIPCO 2013), 5 pages.***
- \* ***D. Stowell, S. Musevic, J. Bonada and M. D. Plumbley (2013), Improved multiple birdsong tracking with distribution derivative method and Markov renewal process clustering. In: Proceedings of the International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2013), 5 pages.***
- \* ***D. Stowell and M. D. Plumbley (2012), Framewise heterodyne chirp analysis of birdsong. In: Proceedings of the European Signal Processing Conference (EUSIPCO 2012), 2694-2698.***
- \* D. Stowell and M. D. Plumbley (2012), ***Multi-target pitch tracking of vibrato sources in noise using the GM-PHD filter. In: Proceedings of the 5th International Workshop on Machine Learning and Music (MML12), 27-28.***
- \* D. Stowell and E. Chew (2012), ***Bayesian MAP estimation of piecewise arcs in tempo time-series. In: Proceedings of the International Conference on Music and Multimedia Retrieval (CMMR 2012), 634-644.***
- \* D. Stowell and S. Dixon (2011), ***MIR in school? Lessons from ethnographic observation of secondary school music classes. In: Proceedings of the International Conference on Music Information Retrieval (ISMIR 2011), 347-352.***
- \* D. Stowell and A. McLean (2011), ***Live music-making: a rich open task requires a rich open interface. In: Proceedings of the BCS HCI 2011 Workshop - When Words Fail: What can Music Interaction tell us about HCI? 5 pages.***
- \* D. Stowell (2011), ***Scheduling and composing with Risset eternal accelerando rhythms. In: Proceedings of the International Computer Music Conference (ICMC), 4 pages.***
- \* D. Stowell, M. Barthet, S. Dixon and M. Sandler (2011). ***Musicology for the masses: Situating new audio technologies for musicology and music education. In: Proceedings of the Digital Economy All Hands Conference 2011, 2 pages.***
- \* D. Stowell and M. D. Plumbley (2010), ***Cross-associating unlabelled timbre distributions to create expressive musical mappings, In: Proceedings of the 2010 Workshop on Applications of Pattern Analysis, 28-35.***
- \* D. Stowell and M. D. Plumbley (2010), ***Timbre remapping through a regression-tree technique. In: Proceedings of the Sound and Music Computing conference, 6 pages.***
- \* D. Stowell and M. D. Plumbley (2008), ***Robustness and independence of voice timbre features under live performance acoustic degradations. In: Proceedings of the 11th Conference on Digital Audio Effects (DAFx'08), 8 pages.***
- \* D. Stowell, M. D. Plumbley, and N. Bryan-Kinns (2008), ***Discourse analysis evaluation method for expressive musical interfaces. In: Proceedings of New Interfaces for Musical Expression (NIME'08), 81-86.***
- \* D. Stowell and M. D. Plumbley (2007). ***Adaptive whitening for improved real-time audio onset detection. In:***

*Proceedings of the International Computer Music Conference (ICMC'07)*, Copenhagen, Denmark, 312-319, August.

- \* D. Stowell and M. D. Plumbley (2007). **Pitch-aware real-time timbral re-mapping**. In: *Proceedings of the Digital Music Research Network Summer Conference*, Leeds Metropolitan University, UK, 7-8 July.

## Conference papers (not refereed)

- \* D. Stowell and M. D. Plumbley (2013), **Acoustic detection of multiple birds in environmental audio by Matching Pursuit**. Technical note, International Conference on Machine Learning 2013 Bird Challenge.

## Other publications

### Book chapters

- \* D. Stowell and A. McLean (2013), Live music-making: a rich open task requires a rich open interface. In: Holland, S., Wilkie, K., Mulholland, P. and Seago, A. (eds.) *Music and Human Computer Interaction*. London: Springer.
- \* D. Stowell (2011), Writing Unit Generator Plugins. In: Wilson, Cottle and Collins (eds.) *The SuperCollider Book*. Cambridge, MA: MIT Press.

### Other texts

- \* D. Stowell and M. D. Plumbley (2010), **Birdsong and C4DM: A survey of UK birdsong and machine recognition for music researchers**. Tech. Rep. C4DM-TR-09-12, Centre for Digital Music, Queen Mary University of London, August.
- \* D. Stowell (2010), **Making music through real-time voice timbre analysis: machine learning and timbral control**. PhD thesis, School of Electronic Engineering and Computer Science, Queen Mary University of London, August.
- \* D. Stowell and M. D. Plumbley (2008), **Characteristics of the beatboxing vocal style**, Tech. Rep. C4DM-TR-08-01, Dept. of Electronic Engineering, Queen Mary, University of London.

### Software

As lead developer:

- \* *smacpy* (2013) benchmark audio classifier (Python)
- \* *SuperCollider* (2005—present) open-source music system (C/C++/Python)
- \* *SuperCollider-Android* (2010) audio engine for Android mobile devices (Java/C/C++)
- \* *kdpee* (2009) entropy estimation algorithm (C/C++/Python/Matlab)
- \* *OnCite* (2004—2006) web publications database (PHP/MySQL/JavaScript)
- \* *3D HIV* (2004) educational visualisation (Java/OpenGL)

As contributing developer:

- MPTK* (2013) signal processing library (C/C++/Python)
- Sonic Visualiser* (2010—present) audio/music analysis platform (C++)
- OpenStreetMap* (2013) crowdsourced map system (Ruby/HTML/JavaScript)
- Puredyne* (2010—2012) audio/video Linux distribution (Debian and Ubuntu Linux)
- Moodle* (2004--2006) web education environment (PHP/MySQL/JavaScript)

### Data

*IEEE AASP Challenge on Detection and Classification of Audio Scenes and Events (DCASE)* (2013) public datasets (audio and annotations) for classification and detection tasks

<http://c4dm.eecs.qmul.ac.uk/sceneseventschallenge/>

- \* *beatboxset1* (2008) public dataset (audio and annotations) for human beatbox classification

<http://archive.org/details/beatboxset1>

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[http://scholar.google.co.uk/citations?user=BXu3q\\_wAAAAJ](http://scholar.google.co.uk/citations?user=BXu3q_wAAAAJ)